

19. *R. rudis*, Weihe.

e. *denticulatus*; foliolo terminali quadrangulari-obovato cuspidato basi cordato late inepteque dentato: dentibus denticulatis.

Stem angular, striated; hairs very few; setæ and aciculi not many, short. Terminal leaflet with a somewhat square outline widening slightly upwards and then narrowing rapidly to a cuspidate termination, cordate below. Leaflets all stalked; margin with broad but very shallow and scarcely distinguishable teeth, fringed with small acute prominent denticulations; dark green and pilose above, pale yellowish green beneath. Panicle exactly like that of the typical *R. rudis*.

Loxley near Sheffield, *Rev. W. W. Newbould*.

Obs. This is a very curious variety, in which the coarse serratures of *R. rudis* are reduced in length but not in width, and are thus converted into very broad and very shallow teeth; the whole margin is also fringed with minute points or denticulations. It is very near in general character to *R. rudis* β . *Leightonii*, but differs in the above respects.

22. *R. fusco-ater*, Weihe.

δ . *subglaber*; caulis petiolorumque aculeis subæqualibus setisque paucis, aciculis brevibus pilisque paucissimis, foliis apiculato-dentatis supra glabris subtus tomentosus, foliolo terminali cordato cuspidato, paniculæ diffusæ tomentosæ pilis subnullis setis aciculisque brevibus aculeis elongatis.

Distinguished from all the other forms of *R. fusco-ater* by its almost total want of hairs on the panicle, and the nearly glabrous and more uniformly prickly stems. Its panicle is much divided and spreads in an irregular manner. It is the plant mentioned in the Synopsis as received from Mr. Coleman. Mr. Adamson's plant noticed in the same place is more nearly allied to the typical *R. fusco-ater*.

Mangrove Lane near Hertford, *Rev. W. H. Coleman*. On the canal bank between Claverton and the Dundas aqueduct near Bath.

X.—*The Birds of Calcutta, collected and described by*
CARL J. SUNDEVALL*.

[Continued from vol. xviii. p. 461.]

69. *Gallus alector* var. *domestica*. Tame fowls are kept in great numbers by the Musselmans and Portuguese†. The Hin-

* Translated from the 'Physiographiska Sällskapet's Tidskrift' by H. E. Strickland, M.A.

† The Portuguese who migrated thither in the time of Albuquerque settled in the country, and their descendants, who are now numerous in and around Calcutta, have become as black as negroes. The Hindoos in the lowlands have nearly the same colour.

doos also, who do not themselves kill or eat animals, rear poultry to sell to Europeans. These birds are similar to our own, and of as many varieties: possibly some have been brought thither from Europe. I often inquired whether any yellow or horn-like spots are seen on the neck-feathers of any variety, as in the wild *Gallus Sonnerati* of India, but nothing of the kind was detected, nor any cocks with a blue margined or undivided comb on the head, such as other wild species have. It is reported that wild poultry are found in the Sunderbunds, which is very probable, as *Gallus bankiva*, Temm., which is indubitably the origin of the domestic fowl, is said to occur in many parts of India.

70. *Perdix*. I was informed that partridges are found near Calcutta, and even that they are abundant; but as I never saw any, I cannot say what species was intended. They were said to resemble *P. cinerea*.

Wild pea-fowls (*Pavo cristatus*) are also said to occur in the uninhabited districts. I saw two which were said to be caught in the country, but nothing certain was learnt as to the place where they were taken, except that they were from "the jungles," and the same was the case with most of the wild animals which I saw in captivity; but whether the jungles around Calcutta or in Nepal or the Sunderbunds were intended, could not in general be decided. *Jungle* is an original Indian word which is now adopted in English to express a forest: it commonly implies the dense thickets of bamboos and bushes which prevail everywhere.

Pavo bicalcaratus, Linn., was also seen caged, and was said to be from jungles far up the country. Various other gallinaceous birds occurred tame or in confinement as rarities, e. g. *gold* and *silver pheasants* from China. Guinea-fowls (*Numida meleagris*) are kept in some places, as at the Government garden at Serampore, where some had lived and propagated for many years in company with a flock of Axis Deer, without any other superintendance than that of being prevented from escaping.

71. *Grus antigone*, L., Wagl. Syst. no. 10. Cinerea capite toto nudo, rubro, vertice cinereo.

(Indiv. vetus Martio.) Collum supra medium albidum, supremo breviter nudum, et ut caput rubrum. Iris rubra. Remiges posticæ parum laceræ, vix pendulæ. Altitudo euntis 5 ped. In hoc individuo rostrum et pedes fuscescentia, obscura; remiges et cauda saturate cineræ.

I did not see in a wild state this elegant Crane, which closely resembles our common species, but is twice the size; it can erect itself to a height of full three ells from the ground. It is the largest in the genus, and is one of the birds which come nearest

to the Ostriches in size. I saw several of this species tamed, and especially I had an opportunity of observing accurately and closely one which was kept in the garden at Serampore, and which had been caught several years before near that town. These birds are said to appear rarely so low down, but further north they seem to occur in large flocks, probably however only in winter, for in summer they are found, according to Pallas, in the southern parts of Siberia. This Crane had as lively actions as our own in a tame state; it sprang, hopped, cast up straw and sticks and caught them again, as though some person was playing with it. The Bengalese name is *Saros*.

72. *Ibis macei*, Cuv. R. A.; Wagl. Syst.—*I. leucon*, Temm. Pl. Col. 481 (an *Tant. melanocephalus*? *Lath.*).

Alba, capite colloque nudis, nigris, remigibus (plerisque) totis albis; tarsis reticulatis, digito medio vix longioribus. ♀ adulta (initio Maii). Pure alba. Caput et collum cute duriori, nigerrimo tecta. Cutis plumata corporis pallide rubra; sed in plaga obtecta, ad latera pectoris, et in tota ala, subtus, usque ad digitos, sanguinea, subnuda. Iris nigricans. Rostrum et pedes nigri. Remiges primariæ albæ (in hoc individuo omnes immaculatæ); 3^a reliquis longior; 2^a brevior quam 4^{ta}. Pennæ cubiti 5 ultimæ dilute cinereæ (nec nigræ), pogonio longissimo, laxo, pendulo fimbriatæ, et apicem alæ paullulum deflexo-superantes. Plumæ colli infimi, in lateribus subtusque, elongatæ, acutæ dependentes (collare infra partes nudas formantes, ut in *Vulturibus*). Longit. 26½ poll. Ala 322 millim., tarsus 88; digitus medius 68, cum ungue 82, cauda 130, rostrum e fronte 143.

Indiv. aliud, Mus. Stockh. (Patria incerta.) Simile præcedenti. Ala 316 mill., tarsus 90, digitus medius 72, cum ungue 86.

Indiv. e Java, Mus. Stockh. a prioribus tantum in his differt; remiges 1—3 apice nigro-marginatæ. Pennæ cubiti ultimæ vix laceræ, apice cinereæ. Collare caret plumis elongato-dependentibus. Ala 330 mill., tarsus et digitus ut proxime præcedens (verisimiliter junior).

Obs. Descriptio *Wagleri* citata differt “remige prima apice nigra.” Icon *Temmincki* (loco cit.) bene convenit cum nostro individuo bengalensi; sed descriptio ad hanc figuram data paullo differt, et, ubi de plumis alæ ultimis agitur; cum individuo javano nuper descripto congruit.

This species of *Ibis* was first seen on the river bank in March near Sucsagor, N. of Calcutta, and afterwards in the beginning of May near Culpe, five or six miles further south near the capital. In both cases five birds were seen grouped together. They walked steadily about like storks, which they much resemble in their exterior. The flight and mode of rising is also like that of the Stork, though the neck is not carried straight, but somewhat curved in an opposite direction to the beak, yet not doubled like a heron's. The pure white colour and the large wings made

like a stork's with long bones, make the bird appear very large, although it but slightly exceeds our *Numenius arquata*. The specimen which I shot had nothing in the stomach but small crabs. This bird closely resembles *Ibis religiosa* which occurs in Central Africa, and is found embalmed in the Egyptian catacombs, although it seems not to inhabit Egypt at present. It is chiefly distinguished by the black tips to all the remiges, and by the pendulous, blackish, much-fringed feathers behind the wings.

73. *Ibis falcinellus*. Although this bird did not come into my hands in Bengal, nor have I seen any specimen from thence, I do not hesitate in citing it here. Three individuals were seen on March 23, near Sucsagor, at about 200 ells distance, which was near enough to distinguish the colours. They were pursued and were very shy.

74. *Ciconia alba*, L. (vix = *Mycteria asiatica*, Lath.?). The Stork is one of the birds which occurs both in Sweden and Bengal: it is probably found in the latter country only at the season when it is wanting with us. In the tree-covered vicinity of Calcutta I only saw one, but some miles further north they occur in flocks on the plains: about sixty were counted in one of these flocks. This was a very unusual sight for a European, for the storks with us live, or at least fly, solitary; yet in our country they assemble in flocks at certain places of meeting, in order to migrate. There has been from time immemorial one of these meeting-places for storks on certain hills near my native place, Högstad in Southern Scania. These hills lie between Högstad and Baldringe on a dry heath, surrounded on two sides by marshes and peat-bogs, about 1000 paces from an open oak-wood, where storks have always built in numbers. After the storks in autumn have collected around in parties for some weeks, without keeping near the nests or roosting in them at night, one may see them some day in the middle of September coming from all quarters to the hills in question. The number gradually increases, so that many times more storks than breed in the district are soon assembled. They are supposed to come hither from a considerable part of Scania, perhaps from all the colonies which are sent out at intervals from the oak-wood above-mentioned. Two days thus elapse, during which the birds which have arrived chiefly remain quiet, each by itself, without seeking food, which however is to be found abundantly in the marsh close by; but the following morning they have all disappeared, and no stork is seen afterwards in the district, until they, after half a year's interval return more gradually to their homes from their distant wanderings. The natives say that they hold a council before they set out from the country. Many such meeting-places for storks are

found in Scania, near the woods which they inhabit. In the wood just mentioned they build close to each other in the oak-trees, and agree well together; but in other places they usually will not allow another bird in their vicinity, without a violent battle arising when they come near each other's nests.

The storks which I saw in Bengal had the beak and legs red as with us, but it occurred to me that the black between the beak and the eye in the males was somewhat broader.

75. *Ciconia dubia*.—*Ardea dubia*, Gm.; *Raffl. Sumatr.* *Ardea argala*, Lath. *Ciconia marabu*, Temm. *Pl. Col.* 330; *Wagl. Syst.* (De nomine vide infra.)

Cinerascens (absque nitore viridi), capite colloque nudis, jugulo inferius caruncula conica dependente.

Adulta: Corpore supra nigro-cinereo, subtus albo; collo pallide rubro, caruncula longiore. *Junior*, tota dilutius cinerascens. De ceteris, confer descr. Wagl. et Temm. Ala flexa long. 3 pedum.

This Stork, with the American *Ciconia mycteria* and the Condor, comes in size next to the Struthious birds. After it follows an African Stork, the above-described Indian Crane, the two Vultures of South Europe, the Swan, Albatros, &c.; our Eagles follow, and so on. *Ciconia dubia* is 12 feet between the tips of the wings, or near the size of the Condor, and 5 feet to the top of the head when it walks, which is not more than *Grus antigone*; but the body is larger. It is a prodigy of ugliness; gray, dirty, with the head and neck naked, reddish, thinly strewed with hair, which on the nape forms a ragged tuft; on the lower part of the neck is a loose fringe of feathers, over which there hangs from the throat a fleshy caruncle, much like that over the beak of a turkey-cock. The whole appearance indicates stupidity, especially when in hot weather it sits upon its heels with the tibiae erect, and gasps with the heat. The beak is disproportionately thick, and so strong that it can cut off the arm from a corpse. Like the vultures in Bengal, this Stork lives chiefly on the putrid bodies which are cast up on the river banks, as I have often stated. The Hindoos burn their dead, and this is done as far as possible on the banks of the sacred river; but as a complete funeral pile costs more than the poorer people can afford for their dead relatives, these are commonly laid at ebb-tide close to the water's edge upon some straw, which is set fire to, in order to fulfill the ordinances of their religion, after which the slightly scorched body is carried off by the flood-tide to drift about until it lodges by chance upon the shore, where predacious animals take charge of its burial. By day the vultures, crows, and especially this species of Stork, contribute to the destruction of the corpse, and by night troops of jackals arrive to complete the work; dogs also often partake in the feast.

The species in question is called in Bengal *Hargila* or *Hargill*, or *Gorur*. The Europeans sometimes call it *Eagle* or *Pelican*, but commonly *Adjutant*, in consequence of this bird being nowhere so abundant as at Fort William near Calcutta, and on the roof of the Government-house in the town, where often twenty or thirty collect in the evening to pass the night. The Hindoos regard them as especially sacred, and the English government has for their protection imposed a fine of sixteen rupees for the killing of one. They have even become so tame that at Fort William I often got within fifteen ells of them, and the inhabitants, whom they are more accustomed to see, can go close to them without their moving. I believe that they would make resistance if any one were to attack them.

The flight of the *Hargill* is remarkably steady and elegant, like that of the Vulture; in large circles with the wings perfectly still. One often sees them gradually ascend in spiral circles to such a height that they can hardly be perceived as fine specks; by the angle which they subtended I estimated the perpendicular height at a quarter of a Swedish mile [one and a half English mile]. They remain near Calcutta all the year, and are rather rare at some miles' distance from the town.

Obs. A nearly allied species is found in Africa, which is somewhat less, and greenish above. It was first described by Temminck and well figured in Pl. Col. 301. Under the tail of both these species are found the elegant curled feathers which are used as ornaments under the name of Marabu's feathers. Temminck calls the Indian bird *Ciconia marabu* and the African *C. argala*, but he has here confounded these names. *Argala* was derived by Latham from the Indian *Hargila*, and unquestionably applies only to the Indian species. *Marabu* on the other hand is a name introduced from Africa, and can least of all be applied to an Indian species which had two names already. The word *Marabun*, or in common parlance *Marabu*, means, according to the Arabic dictionary, an assembler of the people, and is used in Barbary for the priests of the Bedouins, who it seems use these feathers as marks of distinction; whence in Europe they have got the name of *Marabu's feathers*. Now that this confusion of names has once occurred, it can scarcely be corrected in any other way than by adopting entirely fresh names; so that it is best to retain for the Asiatic species the older though ill-adapted specific name of Gmelin, *C. dubia*, and for the African one to adopt a new one, viz. *C. vetula*.

76. *Ardea nycticorax*, L., Wagl. Syst. no. 31. Plumis colli elongatis, tibia brevius nuda. Rostrum crassum, capite paullo longius. *Adulta*: alba, capillitio dorsoque æneo-nigris, alis, dorso posteriore obtecto, caudaque canis.

♀ (d. 28 Febr.). Occiput caret pennis longis albis. Plumæ dorsi anterioris viridi-nitentes, laceræ longæ : caudam attingentes. Supercilia et margo frontis alba. Collum postice leviter canescens. Rostrum apice fuscum, basi, cum loris et orbitis olivaceo-flavescens. Pedes virescenti-flavi. Iris sanguinea. Rostrum e fronte 70 millim. Altit. 22. Ala 272, tarsus 65, digitus medius 64, cum ungue 76.

This single specimen was procured from the Danish merchant Berg at Serampore, the same day that he had shot it near a small tank. I did not see this species living myself. It was considered rare, and was unknown to Berg, who was a keen sportsman. The stomach was empty, but smelt strongly of fish. *Ardea nycticorax* is one of the birds which is found all over the globe, in the entire torrid zone and in a considerable part of the temperate ones.

77. *Ardea scapularis*, Ill., Licht.; Wagl. Syst. no. 35. Plumis colli elongatis, tibia brevissime nuda, rostro capite longiore. *Adulta* cinerea; alis virescentibus, albo-marginatis. Capillitio æneo-nigro, crista dependente; dorsi plumis longis, lanceolatis, obscure cinereis, virescenti nitidis, rhachide albidâ.

♀ (d. 20 Febr.—adultâ). Corpus cinereum. Collum totum cum jugulo immaculato, cinereum, unicolor; gula alba. Capitis latera cinerea, macula oblonga atra pone angulum oris, et vitta alba sub eodem. Rostrum et facies olivacea, maxilla inferiori et orbita flavidis. Pedes (in siccata) obscure rubicundi. Rostrum e fronte 65 mill., cum cranio 115. Ala 170, cauda 60, tibia nuda 12, tarsus 42, digitus medius 40, cum ungue 48. Differt ab indiv. americanis, quæ vidi, et a descriptione Wagleri jugulo non rufo maculato, magnitudine paulo majori, et rostro crassiori.

This small Heron, which is one of the least in the genus, not much larger than a *double snipe*, was only seen twice, at some tanks near Serampore. Like the larger species it is lazy, but shy and wary, and often perches in trees. The specimen obtained had the stomach empty, and smelling strongly of fish. The same species occurs also in South America*.

78. *Ardea speciosa*, Horsf., Wagl. Syst. no. 25. Plumis colli elongatis, tibia brevius nuda. Rostrum tenue, capite longius. Alba, capite lævi dorsoque plumis laceris, prolixis, obscuris.

♂ ♀ (junior ?) Febr. Martio. Corpus alæ et cauda alba, capite colloque plumis testaceis, late fusco-marginatis. Gula alba. Plumæ dorsi antichi laceræ; magnæ, fusco-griseæ. Scapulares ejusdem coloris, striola media albidâ. Plumæ immixtæ, sericeo laceræ, fusco-purpurascens. Plumæ occipitis nullæ elongatæ. Iris flavissima. Rostrum apice nigrum, basi et facie nuda flavescens. Pedes fuscescentes. Rostrum e fronte 62 millim., tarsus 53, digitus medius 53, cum ungue 62, ala 220.

* This is incorrect, the American species being distinct.—H. E. S.

Ardea speciosa is the commonest of the Bengalese Herons. It is seen everywhere near tanks and on the banks of the river, even among houses and at Serampore. It was said to build in trees; and is stationary the whole year. Like all the Herons it flies with the neck doubly curved. When the large white wings are expanded, but few of the dark feathers above the body are seen, so that the bird seems wholly white, but when it walks it appears dark gray. A male which was shot had the stomach filled with grasshoppers; in the female were found both grasshoppers and remains of fish. The Bengalese name is *Bogg* or *Khanni bogg*, which name however I often heard applied to the other species of Heron, both greater and less, white and coloured.

79. *Ardea russata*, Wagl. no. 12. Plumis colli brevibus, tibia longius nuda. Rostrum capite parum longius. Junior tota alba.

♀ (in fine Martii). Tota alba immaculata, occipite non cristato. Iris flava. Rostrum totum et facies nuda flava. Pedes fuscescentes, tarso superne parteque nuda tibiæ flavescens. Unguis medius validior, usque ad apicem pectinatus. Longit. 18 poll., rostrum e fronte 62 mill., ala 240, tarsus 87, digitus medius 57, cum ungue 75. Plumæ occipitis breves, simplices; pectoris vix elongato-pendulæ.

This small white Heron was seen rather less frequently than the last species during all the time I remained in Bengal. Among the many which I saw from February to April, none were observed with the isabella-coloured back, neck and head, as the old birds are described, which is perhaps owing to the old ones being more wary, so that I did not approach them near enough to distinguish the colour. The only one which I shot had been eating grasshoppers and water-larvæ, but no traces of fish were found in its stomach. This, like the other Herons with a small neck and long legs, is often seen walking about with outstretched neck. Those species which I have seen with long neck-feathers and shorter feet have been more sedentary; they conceal themselves and crouch, so that they are not seen until they fly up.

80. *Ardea garzetta*, Wagl. Syst. no. 10. Plumis colli brevibus, tibia longe nuda. Rostrum tenue, capite longius. Tota alba, pedibus nigris, tarso inferiori digitisque viridi-flavis.

Senior (initio Maii). Iris flava. Rostrum et facies nuda nigra, orbita flavescens. Occiput et pectus plumis elongatis, pendulis, lacero-acutis. Plumæ dorsi speciosæ, raro pectinatæ, paucae, vix caudam attingentes. Ungues breviores: medius 12 millim., pectine, ut in plerisque *Ardeis*, ante apicem abrupte terminato. Priori dimidio major.

Although this species was not rare, I only procured one specimen, which from various interruptions was not preserved, so that I cannot give the dimensions. It was often seen walking

